

REMARKS

Applicants have amended the specification and claims to more particularly define the invention taking into consideration the outstanding Official Action.

The specification has been amended by submitting herewith amended corrected formal drawings Figures 1-3 containing the legend "Prior Art" as required in the Official Action thereby obviating the objection to the drawings. Accordingly, it is most respectfully requested that this objection be withdrawn and the next Official Action indicate that all the drawings are acceptable.

Applicants have noted the claim objections to claims 1, 8, 13-14 and 17. All the claims have been canceled from the application and claims 22-42 have been added to the application. These claims do not contain the objected to material as noted in the outstanding Official Action. Applicants most respectfully submit that all the claims now present in the application are in full compliance with 35 U.S.C. 112 and are clearly patentable over the references of record.

The rejection of claims 1-12, 14-15, 17 and 19-21 under 35 U.S.C. 112 has been carefully considered but is most respectfully traversed in view of the amendments to the claims. The amendments to the claims, that is, the submission of a new claim set, obviate all of the outstanding rejections. Applicants also wish to point out that the level of skill of one of ordinary skill in the art to which the invention pertains must be taken into consideration in evaluating the patentability and compliance with 35 U.S.C. 112. Clearly, one of ordinary skill in the art would find that all of the claims now present in the application are in full compliance with 35 U.S.C. 112. Accordingly, it is most respectfully requested that this rejection be withdrawn.

The rejection of claims 1-2 and 4-21 under 35 U.S.C. 103 as being unpatentable over Pryor et al. has been carefully considered but is most respectfully traversed.

Applicants wish to direct the Examiner's attention to the basic requirements of a prima facie case of obviousness as set forth in the MPEP § 2143. This section states that to establish a prima facie case of obviousness, three basic criteria first must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to

modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Section 2143.03 states that all claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Applicants have carefully considered the specific portions of the Pryor reference cited in the Official Action but do not believe that these portions render the claimed invention obvious. Moreover, the Official Action does not provide the necessary motivation to make the necessary modifications to arrive at the presently claimed invention absent Applicants' disclosure. It is impermissible and hindsight to reconstruct the claimed invention from the prior art based upon Applicants' disclosure. In re Fritch, 23 USPQ 1780, 1784 (Fed Cir. 1992) ("It is impermissible to engage in hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps.).

Moreover, Applicants note that the Official Action refers to the prior reference structure as one which anticipates Applicants' claimed structure. However, the rejection is on the grounds of obviousness and not on anticipation. Clarification as to the basis of the rejection in the next Official Action is most respectfully requested.

Applicants have carefully noted the reference in the Official Action to Figure 2 of the Pryor reference. However, to fully comprehend Figure 2, Figure 1 must be reviewed as discussed at column 8, line 16. Figure 1 shows electrical device 30 which is formed on a substrate 32 which may be conductive or insulating as required for the device's application. There is a teaching of stainless steel as the substrate or glass, crystal, crystal silicon, crystal sapphire wafers as examples of insulating substrates.

However, there is a need to make a selection of the type of substrate used which is only found in Applicants' specification which may not be used as a teaching reference. Moreover, obvious to try is not the standard of obviousness under 35 USC 103.

It is further indicated at column 8, line 30, that successively deposited above the substrate 32 are a region or a layer 34 of the electrode material, a film 36 of carbon material, a body or layer 38 of semiconductor or active material, an upper region or film 40 of carbon material and a top metal electrode 42. As noted at column 8, line 58, the films of carbon material 36 and 40 are preferably deposited with DC magnetron sputtering. There are no such features which correspond to the presently claimed invention and there is no motivation to modify this positive teaching and arrive at Applicants' claimed invention, absent Applicants teaching.

Further, at column 9 of the patent it is indicated that the preferred threshold switching material used for layer 38 and Figure 1 device are films of amorphous semiconductor material which include one or more chalcogenide elements, i.e., sulphur, selenium and tellurium.

Turning to Figure 2 as discussed at column 11, Figure 2 shows a thin film structure 60 including two mesa structure 62 and 64 arranged on a common substrate 32. The mesa structures 62 and 64 have conductors 66 and 68 respectively connected to their upper electrodes. The mesa structures 62 and 64 represent two distinct threshold switching devices having a common electrode. As noted at line 39, once layers 38 through 42 have been patterned, an insulation layer 70 is deposited over the entire structure. Layer 70 may be any suitable deposited thin film insulating material such as silicon oxide, silicon nitride, or preferably silicon oxynitride. As recognized in the Official Action, Pryor et al. do not indicate the same structure as that presently claimed. The Official Action tries to read the Pryor et al. structure on the presently claimed invention but relies upon Applicants' disclosure for such a reading. Moreover, it ignores the intervening layers such as the carbon layer of the Pryor reference. Clearly, there is no anticipation as recognized by not applying a rejection under 35 U.S.C. 102 and there is no obviousness since the necessary motivation to make the necessary changes to arrive at the presently claimed invention are not present in Pryor but only in Applicants'

specification which may not be used as a teaching reference. Accordingly, it is most respectfully requested that this rejection be withdrawn.

The rejection of claim 3 under 35 U.S.C. 103 as being unpatentable over Pryor et al. in view of Winnett et al. has been carefully considered but is most respectfully traversed. Contrary to the Official Action and for the reasons as discussed above, Pryor et al. does not disclose all the limitations of the claimed invention as detailed above except for the substrate being made of ceramic. For the reasons discussed above, the Pryor reference does not render the presently claimed invention obvious and the teachings of Winnett do not overcome these deficiencies. Accordingly, it is most respectfully requested that this rejection be withdrawn.

In view of the above comments and further amendments to the drawings and claims, favorable reconsideration and allowance of all of the claims now present in the application are most respectfully requested.

Respectfully submitted,
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